DOCUMENT RESUME

ED 192 848 JC 800 535

AUTHOR Sheldon, M. Stephen
TITLE Telephone Interview vs. Mass Mailing for Student Follow-Up: Final Report.
INSTITUTION Los Angeles Pierce Coll., Woodland Hills, Calif.
PUB DATE 77
NOTE 19p.

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Community Colleges; Comparative Analysis; Cost Effectiveness; *Followup Studies; Questionnaires; Reliability; *Research Methodology; Research Problems; Sampling; Surveys; Two Year Colleges
IDENTIFIERS *Mail Surveys; Response Rate (Questionnaires); *Telephone Surveys

ABSTRACT

A study was conducted at Los Angeles Pierce College (LAPC) to test the relative reliability of small-sample telephone interviewing and large-sample mailings with postcard and telephone reminders for student follow-up. The study involved conducting a telephone survey of 245 former students who had enrolled at LAPC in four program areas, and a mail survey of 625 former students from the same program areas. Results indicate that 18% of the sample surveyed by mail returned questionnaires spontaneously. The postcard reminder added less than 2% to the response rate and the subsequent telephone reminder yielded an additional 1%. The telephone survey, conducted by student workers, produced a 50% response rate. Of those who did not respond, 16% were not available, 3% refused to participate, and 30% had disconnected phones or had moved. Cost estimates indicate that 100 returns would require an expenditure of $20 more for telephone interviewing than for mass mailing. Despite the cost advantage of the mail survey, it was determined that the telephone interviews were more reliable, in that the response rate was higher and because conclusions or generalizations based on low, volunteer mail returns were hard to justify. The study report details the sampling procedure utilized during the course of the study and provides data tables and the questionnaires. (JP)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED192848

FINAL REPORT

TELEPHONE INTERVIEW VS. MASS MAILING

FOR STUDENT FOLLOW-UP

U S DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Stephen Sheldon

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

M. Stephen Sheldon

Coordinator of Institutional Research

Los Angeles Pierce College

1977

JC 800 535

FINAL REPORT

TELEPHONE INTERVIEW VS. MASS MAILING

FOR STUDENT FOLLOW-UP

Purpose

It was the purpose of this research project to determine the relative effectiveness of two methods for doing student follow-up studies for vocational education in community colleges. The methods tested were:

1. Small sample telephone interviewing.
2. Large sample mailing with:
   a. postcard reminder
   b. telephone reminder

In order to adequately educate students for the working world, most vocational programs should be modified so that those enrolled develop current skills. One of the best sources of data to guide modification comes from former students: those who have gone through the programs and have left college with salable skills.

Previous to the Student Accountability Model (SAM) both the identification of the students and the determination of the completeness of preparation was, at best, difficult. The SAM program makes this identification and classification relatively easy.

Traditionally, the validity of student follow-up studies has been hampered by two deterrents. First, they were normally conducted by mailing questionnaires to large samples from the population of students who had been in programs and left. Though there were no hard and fast

expectations, about 10 percent of these questionnaires would normally be returned if no other reminders were issued. Second, in most large colleges it was difficult to know what a student's major was and how complete his or her college work had been. For these reasons the decisions based on follow-up questionnaire returns were difficult to defend.

Many procedures have evolved to increase the proportion of returned questionnaires. Colleges have sent reminder postcards, prepared students for follow-up questionnaires before they left the college, and have included letters from department heads and faculty members with whom the students would be familiar. All of these procedures have been reported as valuable, but seldom do they increase the number of the returns to as much as 25 percent.

Though telephone follow-up studies have been carried out sporadically, few have been reported. It has been assumed that the cost of phoning a large sample of former students would be prohibitive as compared to postal charges. However it may be the case that, with appropriate sampling, more generalizable information could be collected for less money by phoning a small, representative sample of students than by sending out hundreds of questionnaires. The present research was conducted to determine whether or not the small-sample telephone interviewing follow-up procedure, would yield more useful results at reasonable costs than mass mailing.

Procedures

Sampling

There were two sampling procedures required for this study. First, it was necessary to select programs to act as a test-bed for the

follow-up studies. Second, a representative sample of students from each program had to be identified.

Selection of Programs. Most large, comprehensive community colleges offer dozens or scores of different programs in occupational education. At Pierce there are 53. The selection was made on two criteria:

1. An adequate number of former students reported by SAM.
2. The importance to the college of gaining information to modify the programs.

The programs chosen were:

1. Natural Resources Management
2. Horticulture
3. Secretarial Science
4. Computer Science

Horticulture and Natural Resources Management were selected because they met the criteria and are conducted by our agricultural department, the largest of any community college in California.

Selection of Former Students. The populations of former students were defined by the SAM listings. These computer reports list all of the students who had enrolled in at least one occupational course during summer '75, fall '75, or spring '76 and were not enrolled at the college in fall '76.

(This was the first operational run of a SAM program made for the Los Angeles Community College District. As a consequence, there were a few minor flaws that are in the process of being eliminated. One was that the inclusion of a summer session tends to spuriously increase the number of students lost. A second was that a few of the occupational courses were overclassified leading to the report of more Achiever, Class 1

students than are warranted. A third was that the District does not record the granting of a degree or certificate for the computer records. The result is that Graduates 1, 2, and 3; Certificates 1, 2, and 3; and Achiever 1 are all grouped into a single category reported as Achiever, Class 1. The user of the printout must make the assumption that everyone reported in this category has left the college with salable skills.)

From the SAM printouts the following samples were made:

1. Horticulture--The SAM printout indicates that 74 students in Floraculture and 158 in Ornamental Horticulture fell into the Achiever 1 category. Of these, a random 82 were selected for telephone follow-up. This represented approximately a one-third sample. The remaining 150 were used as subjects for a mail questionnaire.

2. Natural Resources Management--There were 80 Achiever 1's in the Natural Resources Management Report. Because of the small number, some Non-Achiever, Class 1's were included. A total of 66 were selected for telephone interviewing and the remainder were sent mail questionnaires.

3. Secretarial Sciences--There were a total of 168 Achiever 1's in Secretarial Science and 214 Achiever 2's. There were 79 selected randomly for inclusion in the telephone survey and the remainder were used for mail questionnaires.

4. Computer Sciences--There were 131 Achiever 1's and 80 Achiever 2's in Computer Sciences. Of these, 53 were selected for telephone interviewing. The remainder were used for mail questionnaires.

Selection and Training of Interviewers

Most colleges that carry out telephone interviewing use classified or regular clerical employees as interviewers. Since cost was used as

a criterion for judging follow-up procedures, lower-paid student workers were used as interviewers for this study. The present author received the names of competent students from his colleagues in the Sociology and Psychology Departments. All of the candidates had already passed basic courses in social sciences. A group interview was held with the students, and five who found the project of interest were selected. Each was assigned responsibility for one of the programs. They were given thorough training in conducting telephone interviews. They also had a minor input into the development of the structure of the interview that they were to use. Each was given a copy of "Instructions to Interviewers." (A copy appears in Appendix 1).

An additional step was taken to prepare the student interviewers. The names and telephone numbers of five students from each program were given to each interviewer; and when these interviews were completed, a final meeting was held. This pilot study was also used to test the interview schedule and be sure it was easily usable. (These pilot students were contaminated and removed from the populations to be sampled.)

The Interview Schedule and Questionnaire

An interview schedule was developed to elicit information from each sample of former students. The questions requested data in four areas:

1. Employment
2. Pierce College experience
3. Transfer to another college
4. Department unique questions

The questions for the first three parts were relatively standard. They were taken from other questionnaires and modified only to the

extent that they would be easy to ask in a telephone interview.

The questions in part four were different for each program. Each program director or department head was asked to have the teaching faculty compose questions, the answers to which he or she might find useful in evaluating and modifying course content, or sequence of the program. These chairpersons polled their faculty and each came up with a credible list. In each case the questions were modified by the present author so that the interviewers could use a multiple-choice format.

When the interview schedule was determined to be adequate by the pilot study, questionnaires were composed that would elicit the same information with a mail survey. (A copy of each of the four program-unique questions appears in Appendix 2.)

Both the interview schedules and questionnaires were printed using color coding to distinguish the programs.

Data Collection

Mailing labels with telephone numbers were attached to the interview schedules and these were given to the student workers so that they could do their interviews at home. Almost all of the telephoning was done during the evening hours and weekends. Each number was called three different times before giving up and classifying that student as a non-repondent. This was an arbitrary decision.

The mail questionnaire was printed on legal size, heavy stock paper. It was folded in thirds so that a mailing label could be attached to one surface, and reverse folding exposed the return address. Rather than printing first or third class postal permits, a first class stamp was attached to both the mailing label and return-address surfaces. It as assumed that this procedure might slightly increase the probability of it being returned.

Three weeks after the questionnaires were mailed, all students who had not responded and whose questionnaires had not been returned as nondeliverable, were given a reminder. One part of this group was sent a printed postcard (reproduced in Appendix 3), and a second part was phoned and encouraged to return the questionnaire or, if lost, sent a duplicate.

Three weeks after the reminder, card or call, it was assumed that all returns that would come in had been received.

Results and Recommendations

There are two kinds of results to report for this study. The first deals with the proportion of returns, and hence the validity of conclusions to be drawn. The second deals with cost.

Proportion of Returns

Table 1 lists the number and proportion of returns for the mass mailing for each program. Eliminating the nondeliverables, about 18 percent of the total mail sample returned questionnaires spontaneously (with no reminder). The postcard reminder added less than 2 percent, while the telephone reminder gave an additional 1 percent. If one adds the spontaneous proportion to the telephone reminder, about a 20 to 23 percent return for mail questionnaires was achieved.

(It should be kept in mind that these samples were selected primarily from an achiever population. For a separate study a similar, but much shorter, questionnaire was sent to about 4,000 nonachievers. Slightly less than 10 percent responded.)

Table 2 indicates, of the sample selected for telephone interviews, 50 percent responded, 25 percent had disconnected telephones, had moved, or were unavailable for the interview. This part of the sample is

comparable to the "nondeliverable" category for the mailed questionnaire. If one eliminates these nonrespondents, the proportion of returns of telephone interviewing reaches 72 percent.

In summary, if the nondeliverables are eliminated, 20 percent of the mailed questionnaires were returned and 72 percent of those interviewed by telephone provided some useful information.

Validity of Follow-up Studies

The proportion of returns given above for mail questionnaires appears to be not significantly different from that reported in scores of previous studies. One can elicit returns from between 10 and 20 percent of the former students simply by mailing questionnaires and one round of reminders. However, it is evident that a researcher receiving a 10 to 20 percent volunteer return will have great difficulty justifying any conclusions or generalizations based on data from such a sample. Certainly one could postulate a number of potential systematic differences between those who chose to return their questions and those who did not.

However, conclusions drawn from a 50 percent return, 72 percent if nondeliverables are eliminated, though not immutable verities, are much more defensible. It is difficult to postulate gross systematic differences between those who could be contacted and those who were not at home on three separate occasions.

The first question that this study attempted to answer is, "Can one increase the validity of the findings of student follow-up studies using small sample telephone interviews?" From the above results the answer is an unqualified "yes".

Cost Effectiveness

The student interviewers reported about four completed interviews per hour. This figure made allowance for the failures, e. g., the phone disconnections, move-aways, and no-answers. One can therefore assume that 100 former students can be contacted in 25 hours of phoning. Even using regular classified employees at approximately $6 per hour, a sample of 100 former students could be obtained for $150.

For this study no subjects were selected who lived outside the immediate telephone area. About 78 percent of the student body live within 10 miles of campus and 94 percent live within 15 miles. As a consequence, very few potential candidates for telephoning were eliminated. However, telephone costs were not included in these estimates.

On the other hand, if one assumes even a 20 percent spontaneous return, 500 questionnaires would be sent out to obtain 100 useful returns. Assuming 26 cents postage, the cost for the 100 would be approximately $130.

If one uses the costs estimated above, 100 returns would require an expenditure of $20 more for telephone interviewing than for mass mailing. However, these estimates were all slanted in the direction of increasing the expenses for telephone interviews and decreasing the expenses for mailing. Using student workers as interviewers would reduce the salary for interviewing by 50 percent since students seldom make more than $3 per hour. Assuming a 20 percent spontaneous return for mass mailing is unwarranted. Normally one would expect between 10 and 15 percent return.

Even assuming that the initial estimates were accurate and there was a slight difference in cost per return in favor of mass mailing, there is a great difference in the quality of the conclusions one can draw. Those

from the telephone interviewing sample were defensible and warranted. Those from the mass mailing were, at best, speculative.

Recommendations

The results of this study lead to the recommendation that small-sample telephone interviewing can significantly improve the validity of student follow-up studies without significantly increasing costs.

The utility of a small-sample telephone interview is directly proportional to the care which one exercises in conduction the study. Here are a few suggestions:

1. Sampling is extremely impertant. The number of former students selected for the telephone sample is, of course, dependent upon the number in the defined population. For large populations, 500 or more, a small proportion should be carefully (randomly) taken. If the population is 50 or less, all can be part of the sample. The actual number selected will be determined partially by the amount of money one wishes to spend. However, if one can expect a 50 to 70 percent response and has the tools, such as SAM, to help in selecting a representative sample, valid results can be obtained from relatively few phone calls.

2. The researchers should exercise extreme care in the selection and training of telephone interviewers. For most people, students, classified employees, or even researchers, telephone interviewing quickly becomes a very dull task. Some amount of interest can be initiated if one shares with the interviewers the nature of the research and permits them to contribute to the interview structure.

MSS/pjd

TABLE 1

Results of Mail Questionnaire

Mailed With Spontaneous Response	No. Mailed	Non-Deliverable No.	Non-Deliverable %	Returned No.	Returned %
Horticulture	219	19	9	38	19
Secretarial Science	216	15	7	40	20
Computer Science	123	14	11	16	15
Natural Resources Management	67	8	12	8	14
Totals	625	56	9	102	18

Postcard Reminder	No. Mailed	Non-Deliverable No.	Non-Deliverable %	Returned No.	Returned %
Horticulture	77			4	5
Secretarial Science	81			2	2
Computer Science	58			0	-
Natural Resources Management	25			1	4

Telephone Reminder	No. Called	Non-Deliverable No.	Non-Deliverable %	Returned No.	Returned %
Horticulture	24			0	-
Secretarial Science	18			2	11
Computer Science	29			2	7
Natural Resources Management	15			0	-
TOTALS	625			113	20

TABLE 2

Results of Telephone Interview

Telephoned	1 No. In Sample Schedule	2 Phone Disconnected		3 Moved		4 Non-Deliverables Col. 2 + 3		5 Refused To Answer		6 Unavailable		7 Total Completed		8 Completed Less Non-Deliverables Col. 7 Col. 1 - 4
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	
Horticulture	82	13	16	9	11	22	27	3	4	19	23	38	46	63
Secretarial Science	77	2	3	25	32	27	35	3	4	1	1	46	60	92
Computer Science	53	7	13	2	4	9	17	1	2	14	26	29	55	66
Natural Resources Management	33	14	42	2	6	16	48	1	3	6	18	10	30	59
TOTALS	245	36	15	38	16	74	30	8	3	40	16	123	50	72

INSTRUCTIONS TO INTERVIEWERS

1. Before making the call, fill in the name, telephone number, sex, code, and age for each student, from the listing.

   The first line of student's listing looks like this, and the information you need is marked as follows:

   SEX CODE AGE

   P001496 P1 001.0600 M A1 22

2. Make every effort to contact each ex-student. If they have moved, get the new phone number, if possible.

3. The best time to call is the evening, between 6 and 9 p.m., or weekends.

4. Start each interview with the following message, but use your own words:

   "This is Steve Sheldon of the Pierce College Research Office. We are doing a survey of some of our former students, in order to improve our instruction and services. Will you give me about five minutes of your time to answer some questions?"

5. At the end of the interview, ask the general question:

   "What other suggestions can you make for Pierce College to improve its services to students?"

6. Always ask questions in a conversational tone, using words that you and the interviewee are comfortable with.

   For example, instead of: "Are you presently employed?" you might say: "Do you have a job now?"

7. Fill in as many of the blanks as possible. The interviewee will often volunteer information for questions that you have not yet asked. The sequence of questions is up to you.

8. Write (legibly) any bit of information or anecdote that you think is relevant for feedback to the departments.

PROGRAM UNIQUE QUESTIONS

1. Was your major at Pierce HORTICULTURE (1 = YES 2 = NO)
2. What was your specialty?
   1) General Ornamental
   2) Professional Gardening
   3) Floral Design
   4) Land Management
   5) Nursery Operation Management
   6) Turf Grass Management

Do you think there should be more classes in: (Mark each item: 1 = YES 2 = NO)

3. Soils
4. Landscape Design
5. Construction Techniques
6. Fruit Crops
7. Irrigation Design
8. Turf Grass
9. Production/Nursery Management
10. Which would be more helpful?
    1) More practical, Less theoretical courses
    2) More theoretical, Less practical courses
    3) Half and half
11. Did you take the course "Botany For Horticulture" (1 = YES 2 = NO)
12. IF YES: Was Botany useful for other Horticulture courses? (1 = YES 2 = NO)
13. Were these courses helpful in getting a job? (1 = YES 2 = NO)
    1) Plant Identification
    2) Construction courses
    3) Plant Production/Nursery Management
    4) Soil/Fertilizer
    5) Pest Control
    6) Floral Design
    7) Landscape Design
14. IF WORKING, is salary as much as expected? (1 = YES 2 = NO)
15. Rate Horticulture course content for meeting job requirements
    1) Beyond job requirements
    2) Met job requirements
    3) Inadequate

1. Was your major at Pierce SECRETARIAL SCIENCE
2. What was your specialty?
   1) Legal
   2) Medical
   3) General
   4) Clerical

(FOR THE FOLLOWING QUESTIONS, Mark each item: 1 = YES 2 = NO)

3. Did you need shorthand to get the job?
4. Is shorthand used in job?
5. Do you use a ditto machine?
6. Do you use a mimeograph machine?
7. Do you use "correct type" for errors?
8. Do you make carbon copies regularly?
9. Are you asked to compose business letters?
10. Would more training on telephone have helped you?
11. Do you supervise others in your job?
12. Would a course in human relations have helped you in your job?
13. Would pre-job simulated office experience have helped?
14. Does your office use word processing techniques?

IF YOUR SPECIALTY IN YOUR MAJOR WAS LEGAL SECRETARIAL WORK ANSWER THESE QUESTIONS, YES OR NO.

15. Was the legal training you received relevant to your job?
16. Did you need more training filing legal documents?

IF MEDICAL:

17. Was the medical training relevant to your job?
18. Do you do "back office" work

_1. Was your major at Pierce NATIONAL RESOURCES MANAGEMENT

_2. What was your specialty?
   1) Wildlife
   2) Forestry
   3) Recreation

_3. How many NRM classes did you take?

_4. How many did you take after 4:30 p.m.?

5. How would you rate these topics as offered by Pierce? (Mark each item: 1 = More Needed; 2 = O.K. as is; 3 = Less Needed)

   Outdoor Lab Work
   Field trips
   Career information
   Employment assistance
   Job preparation
   Advanced or second semester classes

6. If you're working or studying in NRM field, do you lack any knowledge or skill that you need for the job? (1 = YES 2 = NO)

7. IF YES: Which? _____

8. How would you rate these as to number of courses offered: (1 = OK As Is; 2 = Wanted, Didn't Get; 3 = Had, Wanted More)

_ Recreation
_ Wildlife
_ Fire Control
_ Forestry
_ Soils
_ Land measurements
_ Nature study

9. Would you accept non-paid NRM work experience for class credit? (1 = YES 2 = NO)

10. IF NO: Why not?

   1) No time
   2) No car
   3) No interest
   4) Want paid work only
   5) Other _____

1. Was your major at Pierce COMPUTER SCIENCE

2. What was your specialty?
   1) Programming
   2) Technology
   3) Business Data Processing

3. Would more training in computer languages have helped you in your present job? (Mark each item: 1 = YES 2 = NO)

   COBOL
   RPG
   PL/1
   FORTRAN
   ASSEMBLY
   OTHER: _____

4. Would training in this equipment have helped in your job? (1 = YES 2 = NO)

   Minicomputer
   Microprocessor
   Microcomputer
   Data Entry Devices (other than Keypunch)
   Key-to-tape
   Key-to-Disk
   Teleprocessing Equipment

5. Should training in these new courses be offered? (1 = YES 2 = NO)

   TSO
   CICS
   JCL (Job Control Language)
   Large Minicomputer Systems
   Other: _____

6. Was Pierce instruction helpful in your getting a job? (1 = YES 2 = NO)

REMINDER POSTCARD

To You! A Former Pierce College Student:

We need you!

A few weeks ago we sent you a questionnaire asking you about your experience at Pierce College. Did we help or hinder you? You haven't sent it back yet, and we need the information to complete our research. With the information you give us we may find ways to improve what Pierce College can do for our community. Please take a few minutes to fill out the questionnaire and return it. If you've lost the questionnaire or have any questions, please call 347-0551 Ext. 388. We'll be happy to answer any of your questions. Your help will be appreciated.

Thank you,

Pierce College Research

NOV 7 1980

UNIVERSITY OF CALIFORNIA
[illegible] CLEARINGHOUSE FOR
JUNIOR COLLEGES
96 POWELL LIBRARY BUILDING
LOS ANGELES, CALIFORNIA 90024